

***NATIONAL WEATHER SERVICE INSTRUCTION 10-1002
MARCH 4, 2005***

***Operations and Services
Climate Services, NWSPD 10-10
CLIMATE MONITORING***

NOTICE: This publication is available at: <http://www.noaa.nws.gov/directives>

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SUMMARY OF REVISIONS: This instruction supersedes NWS Instruction 10-1002, issued February 20, 2003.

This instruction was updated to include the NOAA definitions for El Niño and La Niña in section 9 (El Niño/Southern Oscillation (ENSO) Diagnostic Discussion) as follows:

El Niño (La Niña) is defined by a positive (negative) sea surface temperature (SST) anomaly of 0.5°C or greater from the average over 3 consecutive months in the Niño 3.4 region of the Pacific Ocean (5°N to 5°S and 120°W to 170°W). Niño 3.4 three month SST area averages are computed from 1971-2000 SST base period means

Also, the Palmer Drought Severity Index (section 2) and the Crop Moisture Index (section 3) maps are only issued on the web and no longer issued on other NWS dissemination systems. Therefore, the WMO headings and AWIPS Identifiers have been deleted.

All other information in this instruction remains unchanged from the previous issuance.

<u>(signed)</u>	<u>February 18, 2005</u>
Dennis H. McCarthy	Date
Acting Director, Office of Climate, Water, and Weather Services	

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1. Introduction. This instructional directive describes the narrative and graphical climate monitoring products issued by the Climate Prediction Center (CPC). Product World Meteorological Organization (WMO) headings and Advanced Weather Interactive Processing System (AWIPS) identifiers are listed (if available) for National Weather Service (NWS) dissemination systems. All products are available or linked through <http://www.cpc.ncep.noaa.gov> on the internet unless indicated otherwise.
2. Palmer Drought Severity Index. Internet issuance only: no WMO heading or AWIPS ID:
 - 2.1 Mission Connection. CPC's and U.S. Department of Agriculture's (USDA) Joint Agricultural Weather Facility (JAWF) produces the Palmer Drought Severity Index chart for long-term planning by agricultural and water supply managers.
 - 2.2 Issuance Guidelines.
 - 2.2.1 Creation Software. JAWF uses in-house National Center of Atmospheric Research (NCAR) graphics.
 - 2.2.2 Issuance Criteria. These are scheduled products.
 - 2.2.3 Issuance Time. JAWF issues this product each Monday at around 12:00 noon Eastern local time.
 - 2.2.4 Valid Time. This product is valid for one week after issuance.
 - 2.2.5 Product Expiration Time. This product expires with the next issuance one week later.
 - 2.3 Technical Description. JAWF will follow the format and content described in this section.
 - 2.3.1 Content. The index depicts prolonged (several months to several years) abnormal dryness or wetness; responds slowly; changes little from week to week; and reflects long-term moisture runoff, recharge, and deep percolation, as well as evapotranspiration.
 - 2.3.2 Format. JAWF assigns numerical index values for each National Climatic Data Center (NCDC) climate division.

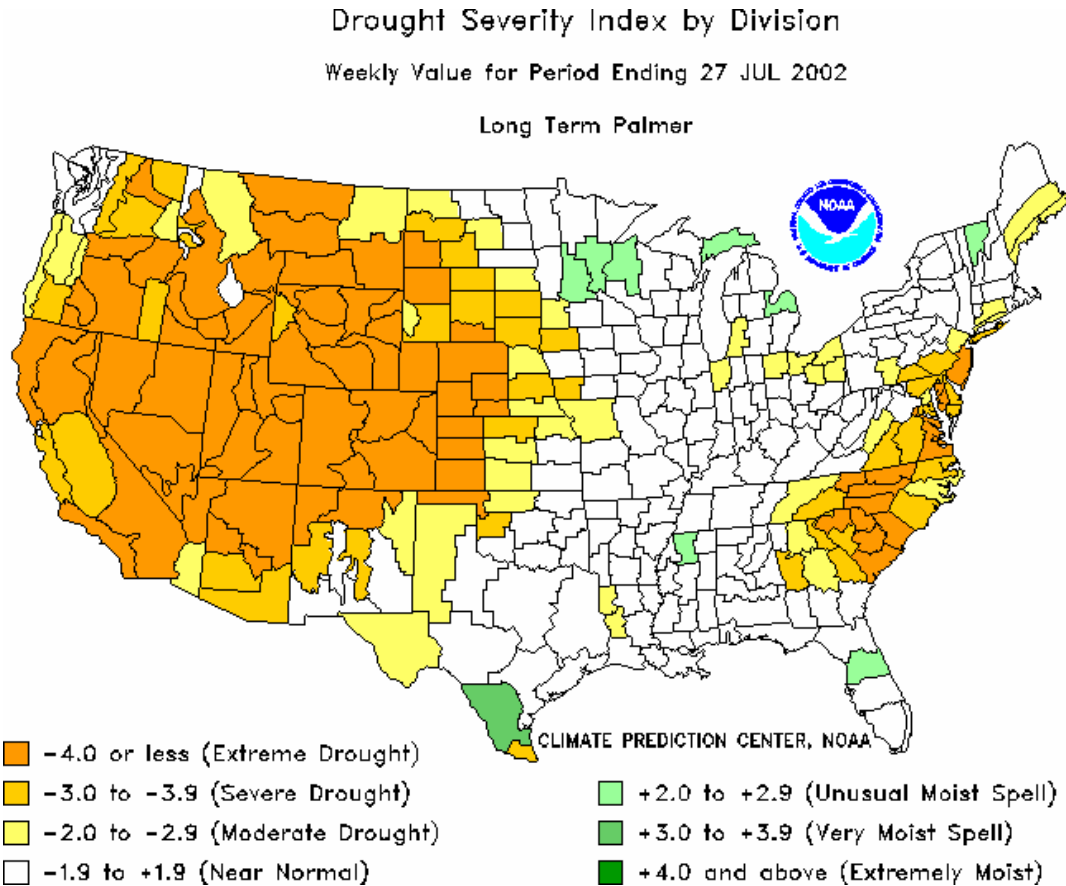


Figure 1. Palmer Drought Severity Index for week ending July 27, 2002.

2.4 Updates, Amendments, and Corrections. JAWF does not issue updates or amendments. They will issue corrections as needed.

3. Crop Moisture Index. Internet issuance only; no WMO heading and no AWIPS ID:

3.1 Mission Connection. JAWF produces the Crop Moisture Index chart for short-term planning by agricultural interests.

3.2 Issuance Guidelines.

3.2.1 Creation Software. JAWF uses in-house NCAR Graphics.

3.2.2 Issuance Criteria. These are scheduled products.

3.2.3 Issuance Time. JAWF issues this product each Monday at around 12:00 noon Eastern local time.

3.2.4 Valid Time. This product is valid for one week after issuance

3.2.5 Product Expiration Time. This product expires with the next issuance one week later.

3.3 Technical Description. JAWF will follow the format and content described in this section.

3.3.1 Content. The index depicts short-term (up to 4 weeks) abnormal dryness or wetness affecting agriculture. This index responds rapidly, can change considerably from week to week, and indicates normal conditions at the beginning and end of the growing season.

3.3.2 Format. JAWF assigns numerical index values for each NCDC climate division.

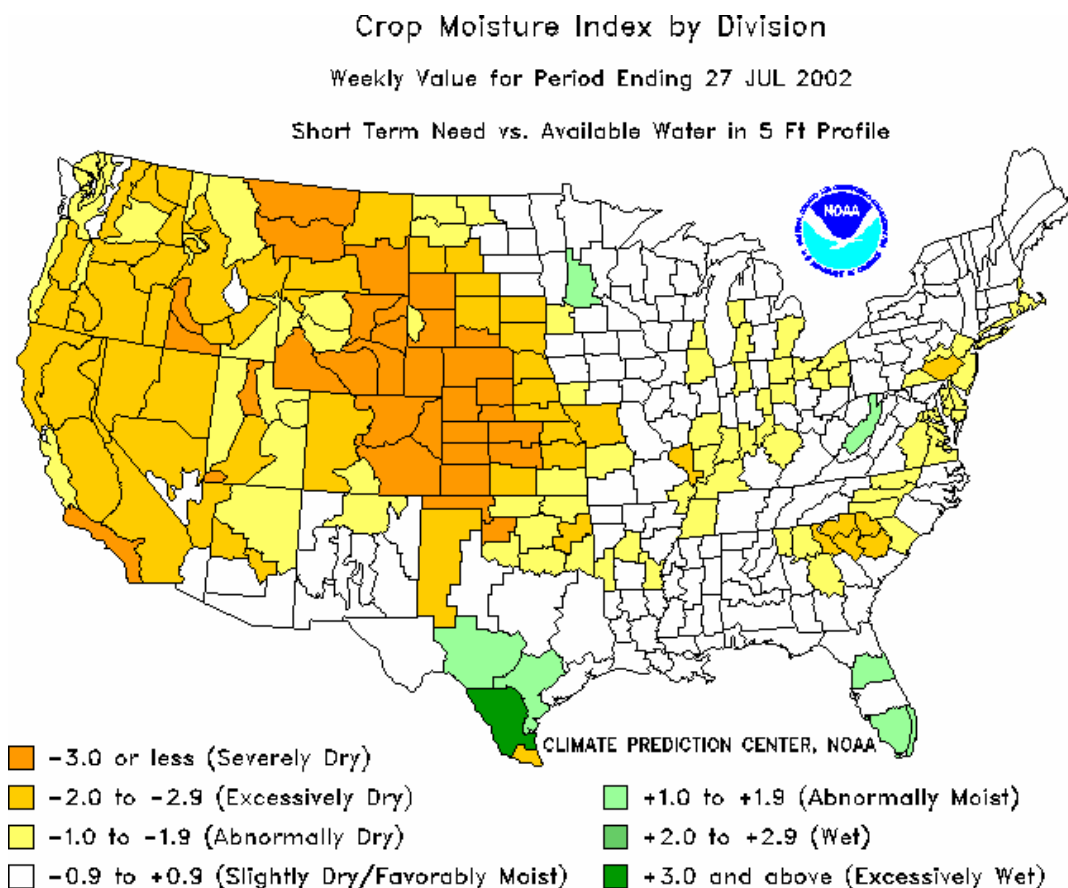


Figure 2. Crop Moisture Index for week ending July 27, 2002.

3.4 Updates, Amendments, and Corrections. JAWF does not issue updates or amendments. They will issue corrections as needed.

4. The U.S. Drought Monitor. WMO Heading - PYIA88 KWNC; AWIPS ID - RBGDRO
- 4.1 Mission Connection. This product is primarily intended for agricultural and water supply interests. NOAA's CPC and NCDC, USDA, and the National Drought Mitigation Center (NDMC) jointly issue this product with lead responsibility rotating among this "team."
- 4.2 Issuance Guidelines.
 - 4.2.1 Creation Software. The team uses ArcGIS (geographic information system) for personal computers.
 - 4.2.2 Issuance Criteria. These are scheduled products.
 - 4.2.3 Issuance Time. The team issues this product every Thursday at 8:30 a.m. Eastern local time except if Thursday is a Federal Holiday. In the case of a Thursday holiday, the team will issue the product the Wednesday before the Thursday Holiday at 8:30 a.m. Eastern local time.
 - 4.2.4 Valid Time. This product is valid as of 1200 Universal Coordinated Time (UTC) on the Tuesday prior to issuance until 1200 UTC the following Tuesday.
 - 4.2.5 Product Expiration Time. This product expires with the next issuance one week later.
- 4.3 Technical Description. The team will follow the format and content described in this section.
 - 4.3.1 Content. The team summarizes the extent and intensity of large scale drought nationwide.
 - 4.3.2 Format. The team uses a classification system to determine drought intensity and type analogous to the schemes for hurricanes and tornadoes. They combine key indices of rainfall and drought as well as local impact reports and expertise to produce the final drought intensity rating. Since drought often affects various activities differently, the team encloses areas on a map with solid black lines where drought is affecting agriculture (A), and hydrological (H) activities disproportionately. Drought areas not enclosed by a black line are experiencing both impact types to a similar degree.

Drought Severity Classification: The team bases the drought intensity classes on six key indicators and numerous supplementary indicators. The map's drought severity classification table shows the ranges for each indicator for each dryness level. Because the ranges of the various indicators often do not coincide, the team bases the final drought category on what the majority of the indicators show. The team also weighs the indices according to how well they perform in various parts of the country and at different times of the year. The team often needs additional indicators in the West, where winter snowfall has a strong bearing on water supplies.

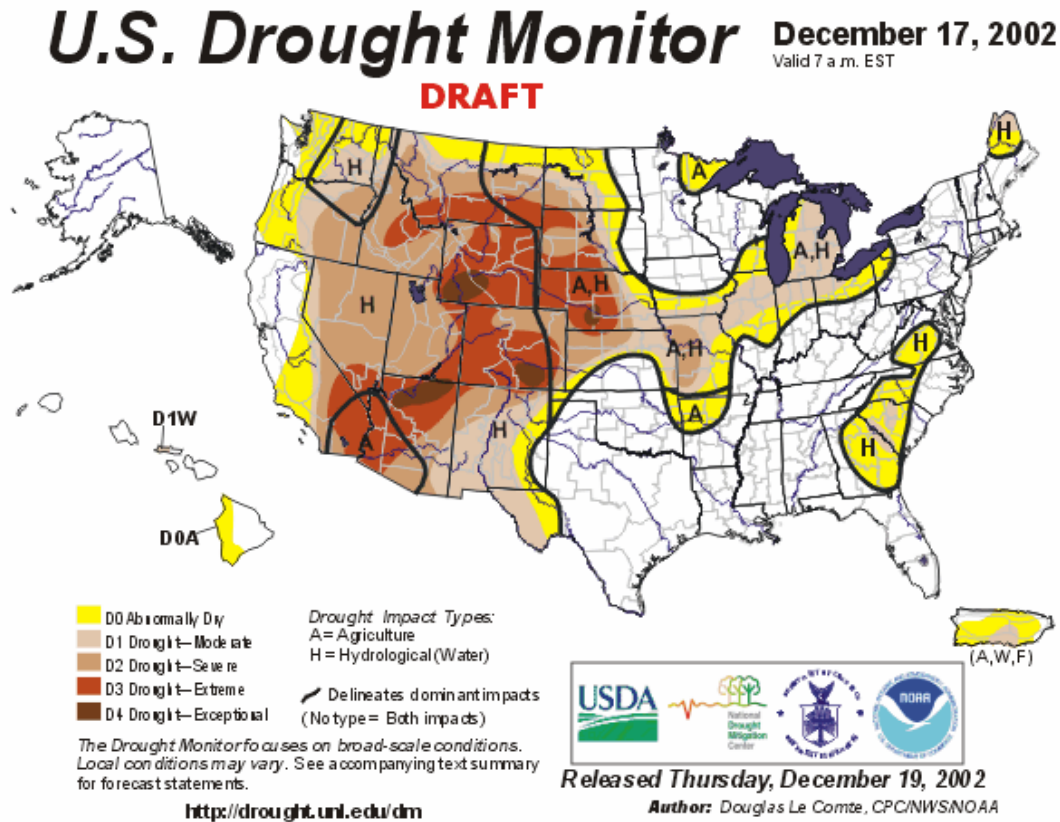


Figure 3. Example of U.S. Drought Monitor.

The team loosely defines the drought intensity classes, ranging from D0 to D4, by the frequency with which similar or drier conditions can be expected for the given location and season. The team approximates thresholds for the D0, D1, D2, D3, and D4 classifications by 30 percentile, 20 percentile, 10 percentile, 5 percentile, and 2 percentile occurrence frequencies, respectively. To make such assessments, the team uses a variety of drought indicators including derived indices, precipitation on various time scales, impact reports, and local expertise, with the final classification leaning toward those indicators which seem most relevant to observed impacts. The following table provides examples of indicators which independently meet the D0 to D4 criteria. However, the following indicators are not expressed as or based on percentiles (specifically, the Palmer Drought Index, Percent of Normal Precipitation, and Satellite Vegetative Health Index) representing the national average of conditions that meet the D0 to D4 thresholds. Thus, these thresholds used in practice vary dramatically with location and time of year.

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D0 Abnormally Dry Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.

Palmer Drought Index	-1.0 to -1.9	Standard Precipitation Index	-0.5 to -0.7
Percent of Normal Precip.	<75% for 3 mo.	Satellite Vegetative Health Index	36-45
CPC Soil Moisture Model	21-30%		
U.S. Geological Survey			
(USGS) Weekly Streamflow	21-30%		

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D1 Moderate Drought Moderate drought Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low; some water shortages developing or imminent; voluntary water use restrictions requested.

Palmer Drought Index	-2.0 to -2.9	Standard Precipitation Index	-0.8 to -1.2
Percent of Normal Precip	<70% for 3 mo.	Satellite Vegetative Health Index	26-35
CPC Soil Moisture Model	11-20%		
USGS Weekly Streamflow	11-20%		

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D2 Severe Drought Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.

Palmer Drought Index	-3.0 to -3.9	Standard Precipitation Index	-1.3 to -1.5
Percent of Normal Precip	<65% for 6 mo.	Satellite Vegetative Health Index	16-25
CPC Soil Moisture Model	6-10%		
USGS Weekly Streamflow	6-10%		

- D3 Extreme Drought Major crop or pasture losses; extreme fire danger; widespread water shortages or restrictions.

Palmer Drought Index	-4.0 to -5.4	Standard Precipitation Index	-1.6 to -1.9
Percent of Normal Precip	<60% for 6 mo.	Satellite Vegetative Health Index	6-15
CPC Soil Moisture Model	3-5%		
USGS Weekly Streamflow	3-5%		

- D4 Exceptional Drought Exceptional and widespread crop or pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.

Palmer Drought Index	-5.5 or less	Standard Precipitation Index	-2.0 or less
Percent of Normal Precip	<60% for 12 mo.	Satellite Vegetative Health Index	1-5
CPC Soil Moisture Model	0-2%		
USGS Weekly Streamflow	0-2%		

4.4 Updates, Amendments, and Corrections. The team does not issue updates or amendments. They will issue corrections as needed.

5. National Drought Summary. WMO heading - FXUS25 KWNC; AWIPS ID - PMDDRO

5.1 Mission Connection. This text product is usedy primarily by agricultural and water supply interests in short-term planning. NOAA's CPC and NCDC, the USDA, and the NDMC jointly issue this product with lead responsibility rotating among this "team."

5.2 Issuance Guidelines.

5.2.1 Creation Software. The team uses text editing.

5.2.2 Issuance Criteria. These are scheduled products.

5.2.3 Issuance Time. The team issues this product every Thursday at 8:30 a.m. Eastern local time time except if Thursday is a Federal Holiday. In case of a Thursday holiday, the team will issue the product the Wednesday before the Thursday Holiday at 8:30 a.m. Eastern local time.

5.2.4 Valid Time. This product is valid as of 1200 UTC on the Tuesday prior to issuance until 1200 UTC the following Tuesday.

5.2.5 Product Expiration Time. This product expires with the next issuance one week later.

5.3 Technical Description. The team follows the format and content in this section.

5.3.1 Mass News Dissemination Header.

NATIONAL DROUGHT SUMMARY

(lead member of the team)

5.3.2 Content. The team issues this summary to accompany the U.S. Drought Monitor. The team describes the current status of and recent occurrences affecting drought across the country along with a national look ahead to weather conditions expected to affect drought areas during the ensuing 10 days.

5.3.3 Format. The following is a generic format.

NATIONAL DROUGHT SUMMARY

(lead member of the team)

830 AM day mo. 20--

(area of country)...(text)

(area of country)...(text)

etc. as needed

LOOKING AHEAD...(text)

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5.4 Updates, Amendments, and Corrections. The team does not issue updates or amendments. They will issue corrections as needed.

6. Weekly Weather and Crop Bulletin. Internet issuance and hard copy subscription only - No WMO heading and AWIPS ID.

The electronic internet version remains free and is print-available on the internet at <http://www.usda.gov/oce/waob/jawf/wwcb.html>. A section with hard copy subscription information is available at this site.

6.1 Mission Connection. JAWF issues this bulletin to provide information for agricultural operations.

6.2 Issuance Guidelines.

6.2.1 Creation Software. JAWF uses Portable Document File software.

6.2.2 Issuance Criteria. These are scheduled products.

6.2.3 Issuance Time. JAWF issues the product by 12:00 noon Eastern local time the third business day of the week. This will be Wednesday except for weeks when there is a federal holiday before Thursday.

6.2.4 Valid Time. This product is valid for one week after issuance.

6.2.5 Product Expiration Time. This product expires with the next issuance.

6.3 Technical Description. The team will follow the format and content described in this section.

6.3.1 Content. JAWF includes reports on United States weather and crop status for the past week as well as growing conditions around the world.

6.3.2 Format. The following is a generic format.

Highlights and Total Precipitation Map

Impact(s) from significant event(s) map(s) and summary/summaries

Temperature Departure and Average Temperature Maps

Extreme Maximum and Minimum Temperature Maps

Weather Data for the Delta and MO Bootheel (tables) and Soil Temperature Map (in season)

Growing Degree Day Maps (in season) and Pan Evaporation Map (in season)

National Weather Data for Selected Cities (tables)

National Agricultural Summary and Snow Cover Map (in season)

International Weather and Crop Summary (brief text highlights of each area below)

 Total weekly precipitation map and detailed text summary for each area

 Western Former Soviet Union

 Europe

 Australia

 Southeast Asia

 Eastern Asia

 South America

 South Africa (winter)

 Middle East (winter)

 Northwestern Africa (winter)

 South Asia (summer)

 Newlands Former Soviet Union (summer)

 South-Central Former Soviet Union (summer)

 Mexico (summer)

 Canada (summer)

Subscription Information & Drought Monitor (current)

JAWF may also occasionally include CPC outlooks, other CPC monitoring information, and hydrological information in the bulletin, as appropriate.

6.4 Updates, Amendments, and Corrections. JAWF does not issue updates or amendments. They will issue corrections as needed.

7. Climate Diagnostics Bulletin. Internet and hard copy issuance only - no WMO heading and no AWIPS ID.

Those desiring hard copy subscription may ask to be added to the mailing list by sending their request to:

Climate Prediction Center
Attn: Climate Diagnostics Bulletin
W/NP52, Room 605, WWB
5200 Auth Road
Camp Springs MD 20746-4304

There is no subscription charge.

7.1 Mission Connection. CPC issues this bulletin to provide insight into climate outlooks by reviewing past climate conditions and looking ahead to implications on the upcoming seasons.

7.2 Issuance Guidelines.

7.2.1 Creation Software. CPC issues the publication on the web and by subscription.

7.2.2 Issuance Criteria. This is a scheduled product.

7.2.3 Issuance Time. CPC issues the bulletin on the 15th of the month (if a weekday), or the first weekday after the 15th.

7.2.4 Valid Time. This product is valid until the next issuance.

7.2.5 Product Expiration Time. This product expires with the next issuance.

7.3 Technical Description. CPC will follow the format and content described in this section.

7.3.1 Content. CPC reports on the previous month's status of the ocean-atmosphere climate system in the tropics and extratropics and provides analysis of various seasonal outlook guidance tools.

7.3.2 Format. The following is generic table of contents. (text and graphics).

- Tropical Highlights
- Forecast Forum
 - Outlook statement
 - Discussion
- Extratropical Highlights
 - Northern Hemisphere
 - North America
 - Europe and Asia
 - Southern Hemisphere

7.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

8. CLIMAT messages. WMO Headings (nine messages): CSXX(01-09) KWNO. No internet posting.

8.1 Mission Connection. The program for the international exchange of monthly mean data is called the "CLIMAT" program. The World Data Center for Meteorology (operated by NCDC) collects CLIMAT messages for publication under WMO sponsorship. The CLIMAT program serves the following objectives:

- To provide regular assessments and authoritative statements on the interpretation and applicability of instrumental and proxy data for the study of climate variability, the detection of climate change, and the validation of climate models and forecasts;
- To develop awareness of the inter-annual variability of the global climate system and to facilitate the generation, interpretation, and dissemination of this information in global and regional scale climate fluctuations;
- To support the Global Climate Observing System in the maintenance and integrated development of existing observation systems, including traditional in situ surface and upper-air observations, satellite systems, and new observing technologies;
- To facilitate the development and implementation of methods to enable the rescue, preservation, and management of climate data by WMO Members, especially developing countries; promote the international exchange of climate data and related products; and coordinate the preparation and distribution of global and regional data sets, including metadata, as required for both research and development of climate information and prediction services.

8.2 Issuance Guidelines.

8.2.1 Creation Software. CPC generates coded CLIMAT text messages using a special CLIMAT program that extracts the observed data from a Climate Data Base containing about

two years worth of daily global data. CPC generates CLIMAT messages from METAR observations at specified Automated Surface Observation System observing sites.

8.2.2 Issuance Criteria. These are scheduled products.

8.2.3 Issuance Time. CPC issues the CLIMAT messages once a month on a weekday between the fourth and sixth around 1800 UTC.

8.2.4 Valid Time. This product is valid until the next issuance.

8.2.5 Product Expiration Time. This product expires with the next issuance.

8.3 Technical Description. CPC uses the following format and content described in this section.

8.3.1 Content. CPC provides coded monthly CLIMAT reports for 187 reports for the 50 states, Puerto Rico and Pacific Islands. These stations are:

<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>	<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>
70026	Barrow	AK	PABR	70133	Kotzebue	AK	PAOT
70200	Nome	AK	PAOM	70219	Bethel	AK	PABE
70231	McGrath	AK	PAMC	70261	Fairbanks	AK	PAFA
70273	Anchorage	AK	PANC	70308	St. Paul	AK	PASN
70316	Cold Bay	AK	PACD	70326	King Salmon	AK	PAKN
70361	Yakutat	AK	PAYA	70398	Annette	AK	PANT
72201	Key West	FL	KEYW	72202	Miami	FL	KMIA
72203	West Palm Beach	FL	KPBI	72205	Orlando	FL	KMCO
72206	Jacksonville	FL	KJAX	72207	Savannah	GA	KSAV
72208	Charleston	SC	KCHS	72211	Tampa	FL	KTPA
72214	Tallahassee	FL	KTLH	72217	Macon	GA	KMCN
72218	Augusta	GA	KAGS	72219	Atlanta	GA	KATL
72223	Mobile	AL	KMOB	72226	Montgomery	AL	KMGM
72231	New Orleans	LA	KMSY	72234	Meridian	MS	KMEI
72235	Jackson	MS	KJAN	72240	Lake Charles	LA	KLCH
72242	Galveston	TX	KGLS	72243	Houston	TX	KIAH
72248	Shreveport	LA	KSHV	72250	Brownsville	TX	KBRO
72251	Corpus Christi	TX	KCRP	72253	San Antonio	TX	KSAT
72254	Austin	TX	KAUS	72255	Victoria	TX	KVCT
72256	Waco	TX	KACT	72259	Dallas/Fort Worth	TX	KDFW
72263	San Angelo	TX	KSJT	72265	Midland	TX	KMAF
72266	Abilene	TX	KABI	72267	Lubbock	TX	KLBB
72270	El Paso	TX	KELP	72274	Tucson	AZ	KTUS
72278	Phoenix	AZ	KPHX	72290	San Diego	CA	KSAN
72295	Los Angeles	CA	KLAX	72304	Hatteras	NC	KHSE
72306	Raleigh/Durham	NC	KRDU	72308	Norfolk	VA	KORF

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<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>	<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>
72310	Columbia	SC	KCAE	72312	Greenville	SC	KGMU
72314	Charlotte	NC	KCLT	72315	Asheville	NC	KAVL
72317	Greensboro	NC	KGSO	72324	Chattanooga	TN	KCHA
72326	Knoxville	TN	KTYS	72327	Nashville	TN	KBNA
72340	Little Rock	AR	KLIT	72344	Fort Smith	AR	KFSM
72351	Wichita Falls	TX	KSPS	72353	Oklahoma City	OK	KOKC
72356	Tulsa	OK	KTUL	72363	Amarillo	TX	KAMA
72365	Albuquerque	NM	KABQ	72386	Las Vegas	NV	KLAS
72389	Fresno	CA	KFAT	72394	Santa Maria	CA	KSMX
72401	Richmond	VA	KRIC	72405	Washington	DC	KDCA
72406	Baltimore	MD	KBWI	72407	Atlantic City	NJ	KACY
72408	Philadelphia	PA	KPHL	72411	Roanoke	VA	KROA
72412	Beckley	WV	KBKW	72414	Charleston	WV	KCRW
72421	Cincinnati	KY	KCVG	72422	Lexington	KY	KLEX
72423	Louisville	KY	KSDF	72425	Huntington	WV	KHTS
72428	Columbus	OH	KCMH	72429	Dayton	OH	KDAY
72432	Evansville	IN	KEVV	72434	St. Louis	MO	KSTL
72438	Indianapolis	IN	KIND	72439	Springfield	IL	KSPI
72440	Springfield	MO	KSGF	72445	Columbia	MO	KCOU
72446	Kansas City	MO	KMCI	72450	Wichita	KS	KICT
72451	Dodge City	KS	KDDC	72456	Topeka	KS	KTOP
72458	Concordia	KS	KCNK	72465	Goodland	KS	KGLD
72476	Grand Junction	CO	KGJT	72483	Sacramento	CA	KSAC
72486	Ely	NV	KELY	72488	Reno	NV	KRNO
72494	San Francisco	CA	KSFO	72503	New York	NY	KLGA
72507	Providence	RI	KPVD	72508	Windsor Locks	CT	KBDL
72509	Boston	MA	KBOS	72513	Wilkes-Barre	PA	KAVP
72515	Binghamton	NY	KBGM	72517	Allentown	PA	KABE
72518	Albany	NY	KALB	72519	Syracuse	NY	KSYR
72520	Pittsburgh	PA	KPIT	72521	Akron	OH	KACK
72525	Youngstown	OH	KYNG	72528	Cheektowaga	NY	KBUF
72529	Rochester	NY	KROC	72530	Chicago	IL	KORD
72532	Peoria	IL	KPIA	72533	Fort Wayne	IN	KFWA
72535	South Bend	IN	KSBN	72536	Toledo	OH	KTOL
72537	Detroit	MI	KDTW	72544	Moline	IL	KMLI
72546	Des Moines	IA	KDSM	72552	Grand Island	NE	KGRI
72556	Norfolk	NE	KOFK	72557	Sioux City	IA	KSUX
72562	North Platte	NE	KLBF	72564	Cheyenne	WY	KCYS
72569	Casper	WY	KCPR	72572	Salt Lake City	UT	KSLC
72576	Lander	WY	KLND	72578	Pocatello	ID	KPIH
72583	Winnemucca	NV	KWMC	72594	Redding	CA	KRDD
72597	Medford	OR	KMFR	72605	Concord	NH	KCON
72606	Portland	ME	KPWM	72617	Burlington	VT	KBTB
72635	Grand Rapids	MI	KGRR	72636	Muskegon	MI	KMKG

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<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>	<u>index#</u>	<u>name</u>	<u>state</u>	<u>site</u>
72637	Flint	MI	KFNT	72640	Milwaukee	WI	KMKE
72641	Madison	WI	KMSN	72644	Rochester	MN	KRST
72645	Green Bay	WI	KGRB	72651	Sioux Falls	SD	KFSD
72654	Huron	SD	KHON	72658	Minneapolis	MN	KMSP
72662	Rapid City	SD	KRAP	72666	Sheridan	WY	KSHR
72677	Billings	MT	KBIL	72681	Boise	ID	KBOI
72688	Pendleton	OR	KPDT	72698	Portland	OR	KPDX
72712	Caribou	ME	KCAR	72734	Sault Ste. Marie	MI	KANJ
72745	Duluth	MN	KDLH	72747	International Falls	MN	KINL
72753	Fargo	ND	KFAR	72764	Bismarck	ND	KBIS
72767	Williston	ND	KISN	72768	Glasgow	MT	KGGW
72772	Helena	MT	KHLN	72773	Missoula	MT	KMSO
72775	Great Falls	MT	KGTF	72781	Yakima	WA	KYKM
72785	Spokane	WA	KGEG	72791	Astoria	OR	KAST
72792	Olympia	WA	KOLM	72793	Seattle	WA	KSEA
72797	Quillayute	WA	KUIL	78526	San Juan	PR	MJSJ
91165	Lihue	HI	PHLI	91182	Honolulu	HI	PHNL
91245	Wake	UM	PWAK	91285	Hilo	HI	PHTO
91334	Chuuk	FM	PTKK	91348	Pohnpei	FM	PTPN
91366	Kwajalein	MH	PKWA	91376	Majuro	MH	PKMJ
91408	Koror	PW	PTRO	91413	Yap	FM	PTYA
91765	Pago Pago	AS	NSTU				

8.3.2 Format. Each of the nine collectives (CSXX[01-09] KWNO) has approximately 20 of the 187 station reports. Each collective begins with the following:

CLIMAT MMJJJ, where MM is the 2-digit number for the month and JJJ is the year with the thousands digit dropped. (e.g. March 2002 is 03002).

Within the collectives, each station has a report as indicated generically:

Section 1 (111): Monthly data

Section 2 (222): not used

Section 3 (333): Number of the days in the month with parameters beyond certain thresholds

Section 4 (444): Extreme values during the month and occurrence of thunder and hail.

111 Iiiii 1P₀P₀P₀P₀ 2PPPP 3s_nTTTs_ts_ts_t 4s_nT_xT_xT_xs_nT_nT_nT_n 5eee 6R₁R₁R₁R₁R_dn_rn_r 7S₁S₁S₁p_sp_sp_s
8m_pm_pm_pm_tm_tm_tm_tm_t 9m_em_em_em_rm_rm_sm_s 333 0T₂₅ T₂₅ T₃₀ T₃₀ 1T₃₅T₃₅T₄₀T₄₀ 2T_{n0}T_{n0}T_{x0}T_{x0}
3R₀₁R₀₁R₀₅R₀₅ 4R₁₀R₁₀R₅₀R₅₀ 5R₁₀₀R₁₀₀R₁₅₀R₁₅₀ 6S₀₀S₀₀S₀₁S₀₁ 7S₁₀S₁₀S₅₀S₅₀ 8f₁₀f₁₀f₂₀f₂₀f₃₀f₃₀
9V₁V₁V₂V₂V₃V₃ 444 0s_nT_{xd}T_{xd}T_{xd}Y_xY_x 1s_nT_{nd}T_{nd}T_{nd}Y_nY_n 2s_nT_{ax}T_{ax}T_{ax}Y_{ax}Y_{ax} 3s_nT_{an}T_{an}Y_{an}Y_{an}
4R_xR_xR_xR_xY_rY_r 5R_iw_ff_xf_xY_{fx}Y_{fx} 6D_{ts}D_{ts}D_{gr}D_{gr}

Specifications of Symbolic Letters.

s_n - Sign of temperature: 0 for positive or zero, and 1 for negative values.

0,1,2, etc - group identifiers within a section.

Section 1. (111).

	IIiii	International index number of the station (II=country/area #, iii=station #).
(1)	P _o P _o P _o P _o	Monthly average station pressure in tenths of millibars, thousands digit being omitted.
(2)	PPPP	Monthly average sea level pressure in tenths of millibars, thousands digit being omitted.
(3)	s _n TTT s _t s _t s _t	Average air temperature in tenths of a degree Celsius. Standard deviation of daily average temperatures during the month in tenths of a degree Celsius.
(4)	s _n T _x T _x T _x s _n T _n T _n T _n	Average maximum temperature in tenths of a degree Celsius. Average minimum temperature in tenths of a degree Celsius.
(5)	eee	Mean vapor pressure for the month in tenths of a millibar.
(6)	R ₁ R ₁ R ₁ R ₁ R _d n _r n _r	Total precipitation for the month in millimeters. Quintile (frequency group) within which RRRR falls. The solidus (slant) is used if records were incomplete for the period 1971-2000, unless NESDIS has estimated these values; i.e., via the gamma function. Number of days in month with precipitation equal to or more than 1 mm
(7)	S ₁ S ₁ S ₁ p _s p _s p _s	Total sunshine for the month to the nearest hour (solidus for unknown). Percent of normal sunshine.
(8)	m _p m _p m _t m _t m _{tx} m _{tx}	days with missing pressure. days of missing temperature. days of missing extreme temperature.
(9)	m _e m _e m _r m _r m _s m _s	days of missing vapor pressure data. days of missing precipitation data. days of missing sunshine data.

Section 3 (333); sections with all zero occurrences are omitted in the transmission

(0)	T ₂₅ T ₂₅ T ₃₀ T ₃₀	number of days temperature reaches 25°C or higher. number of days temperature reaches 30°C or higher.
(1)	T ₃₅ T ₃₅ T ₄₀ T ₄₀	number of days temperature reaches 35°C or higher. number of days temperature reaches 40°C or higher.
(2)	T _{n0} T _{n0} T _{x0} T _{x0}	days with minimum temperature below 0°C. days with maximum temperature below 0°C.

- (3) $R_{01}R_{01}$ days with precipitation 1 mm or more.
 $R_{05}R_{05}$ days with precipitation 5 mm or more.
- (4) $R_{10}R_{10}$ days with precipitation 10 mm or more.
 $R_{50}R_{50}$ days with precipitation 10 mm or more.
- (5) $R_{100}R_{100}$ days with precipitation 100 mm or more.
 $R_{150}R_{150}$ days with precipitation 150 mm or more.

Section 4 (444)

- (0) $S_n T_{xd} T_{xd} T_{xd}$ maximum daily mean temperature (tenths of °C).
 $Y_x Y_x$ date of occurrence.
- (1) $S_n T_{nd} T_{nd} T_{nd}$ minimum daily mean temperature (tenths of °C).
 $Y_n Y_n$ date of occurrence.
- (2) $S_n T_{ax} T_{ax} T_{ax}$ monthly maximum temperature (tenths of °C).
 $Y_{ax} Y_{ax}$ date of occurrence.
- (3) $S_n T_{an} T_{an} T_{an}$ monthly minimum temperature (tenths of °C).
 $Y_{an} Y_{an}$ date of occurrence.
- (4) $R_x R_x R_x R_x$ Daily maximum precipitation (mm).
 $Y_r Y_r$ date of occurrence.
- (5) R_{iw} source code for units of wind speed (4=knots).
 $f_x f_x f_x$ maximum wind speed .
 $Y_{fx} Y_{fx}$ date of maximum wind speed.

Note: METAR observations do not provide this data. Thus CLIMAT reports for this group are coded as 54/////.

- (6) $D_{ts} D_{ts}$ number of days with a thunderstorm.
 $D_{gr} D_{gr}$ number of days with hail.

8.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

9. El Niño/Southern Oscillation (ENSO) Diagnostic Discussion.
WMO heading - FXUS24 KWNC AWIPS ID - PMDENS

9.1 Mission Connection. CPC issues this bulletin to provide insight into climate outlooks by reviewing the potential effects of the ENSO.

9.2 Issuance Guidelines.

9.2.1 Creation Software. CPC uses a text editor.

9.2.2 Issuance Criteria. This is a scheduled product.

9.2.3 Issuance Time. CPC will usually issue this monthly discussion on the Thursday from the 5th to the 11th, at around 10:00 a.m. Eastern local time. If necessary, the issuance date may be changed with advance notice (e.g. due to holidays). The issuance time may be delayed a few hours if it is part of a climate outlook press conference.

9.2.4 Valid Time. This product is valid for approximately the next three to four months.

9.2.5 Product Expiration Time. This product expires with the next issuance.

9.3 Technical Description. CPC will follow the format and content described in this section.

9.3.1 Mass News Disseminator Header.

EL NINO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION
NWS CLIMATE PREDICTION CENTER CAMP SPRINGS MD

9.3.2 Content. CPC will indicate the expected occurrence (or lack of occurrence) of El Niño or La Niña for the next 3 months. El Niño. (La Niña) is defined by a positive (negative) sea surface temperature (SST) anomaly of 0.5°C or greater from the average over 3 consecutive months in the Niño 3.4 region of the Pacific Ocean (5°N to 5°S and 120°W to 170°W). Niño 3.4 three month SST area averages are computed from 1971-2000 SST base period means (see NWS Instruction 10-1004).

CPC will also address current oceanic and atmospheric conditions in the Pacific and climate outlooks for the following one to three seasons. They include analysis of current and recent patterns in surface and subsurface water temperature anomalies in the tropical Pacific; related analyses such as rainfall, outgoing long wave radiation, etc.; influencing factors such as Madden-Julian Oscillations, Kelvin waves, etc; and statistical and coupled model predictions.

9.3.3 Format. The following is a generic format.

EL NINO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION
NWS CLIMATE PREDICTION CENTER CAMP SPRINGS MD
1000 AM E-T THU mo. # 20--

NOTE: FIGURES MENTIONED IN THE DISCUSSION ARE AVAILABLE ON THE
INTERNET AT (url).

---text---

THIS DISCUSSION IS A TEAM EFFORT OF NOAA AND ITS FUNDED INSTITUTIONS. UPDATES OF SST... 850-HPA WIND... OLR AND THE EQUATORIAL SUBSURFACE TEMPERATURE STRUCTURE ARE AVAILABLE ON THE CLIMATE PREDICTION CENTER WEB PAGE AT [HTTP://WWW.CPC.NCEP.NOAA.GOV](http://WWW.CPC.NCEP.NOAA.GOV) (WEEKLY UPDATE). FORECASTS FOR THE EVOLUTION OF EL NIÑO/LA NIÑA ARE UPDATED MONTHLY IN CPC'S CLIMATE DIAGNOSTICS BULLETIN FORECAST FORUM. TO RECEIVE AN E-MAIL NOTIFICATION WHEN UPDATED ENSO DIAGNOSTIC DISCUSSIONS ARE RELEASED PLEASE SEND YOUR E-MAIL ADDRESS TO:

CLIMATE PREDICTION CENTER
NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION
NOAA/NATIONAL WEATHER SERVICE
CAMP SPRINGS MD 20746-4304
E-MAIL: (contact) -optional-

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9.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

10. Other Monitoring Products. CPC produces other monitoring products that provide important information for production of CPC climate outlooks. Companies and other organizations also depend on these products as input to their own value added products. These products are available on the CPC web site at their monitoring and data page. Due to the importance of these products, CPC will give issuance of these products high priority along with use of a backup web site. NWS Internet information is available subject to NWS internet policy.

CPC collects and produces daily and monthly data, time series, and maps for various climate parameters, such as precipitation, temperature, snow cover, and degree days for the United States, Pacific Islands, and other parts of the world. The CPC also compiles data on historic and current atmospheric and oceanic conditions, ENSO and other climate patterns such as the North Atlantic and Madden-Julian Oscillations, and stratospheric ozone and temperature.

CPC monitoring products cover each of the following broad categories:

- Oceanic and Atmospheric Monitoring and Data
CPC monitors weather and climate and compiles data on historic and current atmospheric and oceanic conditions, ENSO , tropical intra-seasonal oscillations, arctic oscillation, tropical Atlantic hurricane potential, tropical east-Pacific hurricane potential and other climate patterns such as the Madden-Julian Oscillation, and stratospheric ozone and temperature.
- United States Climate Data and Maps
The CPC collects and produces daily and monthly data, time series, and maps for various climate parameters, such as precipitation, temperature, and degree days. Precipitation maps include the U.S. Daily Precipitation Analysis.

- Global Climate Data and Maps
The CPC produces maps and time series for precipitation and surface temperatures for Africa, Asia, Europe, South and Central America, Mexico, Caribbean, Australia, and New Zealand.
- Pacific Island Climate Data and Maps
The CPC collects and produces daily and monthly data, time series, and maps for precipitation and temperature.